

Five-Year Needs Assessment Summary

(as submitted with the FY 2021 Application/FY 2019 Annual Report)

Process Description

Demographic overview: The state of Missouri, located in the central United States, comprises 114 counties and one independent city (St. Louis), covering an area of 69,709 square miles. Home to 6.1 million people, Missouri is ranked 18th in population in the United States. Of these, 2.1 million (approximately 35%) live in rural areas; more than 80% of non-rural Missourians reside inside the metropolitan statistical areas (MSA) of the state's two major metropolitan centers, St. Louis and Kansas City. St. Louis MSA alone accounts for 35% of the state's total population (2.1 million residents), and Kansas City MSA accounts for an additional 20% (1.3 million residents). In addition to its two major metropolitan areas, Missouri has six other cities that the US Census Bureau designates as MSAs, listed in order of size: Springfield, Columbia, Joplin, Jefferson City, St. Joseph, and Cape Girardeau.

Despite the urban population concentration, 99 of Missouri's 115 jurisdictions are considered rural, and while population growth in Missouri from 2007 and 2017 was below the national average (3.8% for Missouri vs. 8.1% for the US), population increase in rural counties was less than 1%. Missouri's rural counties are also more racially and ethnically homogeneous than its urban counties. From 2014-2018, approximately 7% of rural residents identified as nonwhite, compared to 24% of urban residents. Approximately 244,000 individuals identify as Hispanic, comprising 4% of the state total – a rate significantly lower than the US average of 18%. Individuals of Hispanic ethnicity represent 3% of rural population totals, and 5% of urban population totals; in rural counties, the majority of the Hispanic population is concentrated in Sullivan (northeast), McDonald (southwest), and Pulaski (central) counties. The black or African-American population in Missouri is also concentrated in state's urban regions; 18% of black Missourians live in St. Louis city, representing 47% of that city's population.

In 2018, estimates for Missouri's Maternal and Child Health (MCH) population, including women of childbearing age, infants, children, and adolescents, was 2,708,163, comprising 44% of the state's total population. This includes 1,174,176 women of childbearing age (15-44), 1,533,987 infants, children, and adolescents (<1 to 19), 306,737 of which are children and youth with special health care needs (CYSHCN). Though the rate has slowed, Missouri's Hispanic population continues to be the fastest-growing demographic group: from 2008 and 2018, the Hispanic population increased by 66,264 persons (34%). In contrast, the rate of population increase among African-American/Black Missourians was only 6.6%, and 0.9% among whites.

It was against the backdrop of this changing population that the Title V Agency at the Missouri Department of Health and Senior Services (DHSS) undertook its Five-Year Needs Assessment efforts. The goal of the Five-Year Needs Assessment is to identify and contextualize areas of risk, progress, and ongoing need within the MCH population. Ultimately, the needs assessment permitted the Title V Agency to identify priorities that will guide funding and programmatic decisions to ensure that the needs of the core MCH population are met.

Goals: In addition to serving as the lead MCH service provision entity for the State of Missouri, the Missouri Title V program collaborates closely with Local Public Health Agencies (LPHAs) and other entities to ensure that the needs of MCH populations across the state are met. The Title V MCH Block Grant is one of the largest and oldest federal block grant programs in the nation. The purpose of the grant is to facilitate states' capacity to address the health of women, infants, and children, including adolescents and children with special health care needs (CSHCN). The block grant additionally requires that states conduct a comprehensive state-wide needs assessment every five years; states use the needs assessment findings to identify state priorities and allocate resources to best address those priority needs. The goal of the Missouri Title V Statewide Needs Assessment is to identify MCH priorities for the State of Missouri Title V Program for the upcoming five-year block grant cycle. Furthermore, the findings will be used to direct program efforts to confront the health challenges for the MCH population through effective resource distribution and strategic partnerships throughout the state.

Needs Assessment Framework and Organizational Context: The Missouri Title V Agency used the conceptual framework provided by HRSA/MCHB as part of its needs assessment process, and followed guidance for integrating the needs of stakeholders and Missouri's diverse population through a health equity lens. The needs assessment and its activities were guided by the social ecological model (SEM). This model holds that health within a community is impacted by multiple socioeconomic and environmental influences at a variety of levels (individual, interpersonal, organizational, community, policy/legislative)¹. Ongoing needs assessment activities will continue to assess the impact of these various influences on disparate populations across the state.

Nearly 100 indicators were reviewed and analyzed for the needs assessment process. When numbers permitted, each indicator was broken down among multiple axes, including race, ethnicity, geography, and poverty. Trend analysis was performed on current national and state performance and outcome measures, as well as indicators of population/community health status and health system capacity.

Methodology

Timeline: The Missouri Title V Program initiated the statewide Five-Year Needs Assessment in the fall of 2018. The needs assessment timeline included capacity for the DHSS contracting process (planning), qualitative and quantitative data collection and analysis (spring 2019 – fall 2019), and stakeholder input (winter 2019 – spring 2020) before identification of the final state priorities in spring 2020.

Organization: Needs assessment activities were coordinated by the MCH epidemiology team, part of the Bureau of Epidemiology and Vital Statistics (BEVS) within the Division of Community and Public Health (DCPH). BEVS serves DHSS as an epidemiological and analytical clearing-house, and is also responsible for conducting and maintaining key population health surveillance systems including BRFSS, PRAMS and Missouri's vital statistics system. BEVS is also in the same section (Epidemiology for Public Health Practice, EPHP) as the Bureau of Health Care Analysis and Data Dissemination (BHCADD), which manages the Patient Abstract System (hospital discharge data) and the Missouri Public Health Information Management System (MOPHIMS) query tools. BEVS is also the home for the Chronic Disease Epidemiology Team. This organization enhanced the MCH epidemiology team's capacity to access the broad range of data types that were utilized as part of the needs assessment process. This entity works closely with the Missouri Title V Program to conduct ongoing data support and needs assessment activities, and is central in maintaining and supporting Title V data capacity.

The Missouri Title V Program is also housed within DCPH, in close physical and organizational proximity to BEVS, greatly facilitating the ability of the two entities to coordinate, particularly around stakeholder engagement. BEVS staff also support other major entities within DHSS and the MCH space, enhancing the ability of the unit to incorporate data and feedback from other MCH stakeholders within the Department on current and proposed national and state performance and outcome measures. The input of the Missouri Title V MCH Director and staff was consulted and incorporated throughout the needs assessment process.

Stakeholder Involvement: On April 4, 2020, stakeholders both internal and external to DHSS convened for a virtual presentation and kickoff discussion. This meeting included an overview of the history of the Title V MCH Services Block Grant and recent activities from the Title V MCH Director, and a high-level summary of key findings from quantitative and qualitative data analysis from the MCH Epidemiology team lead. The goal of this meeting was to provide stakeholders with data and context to inform them of Missouri's standing with regard to the MCH population domains and achievements surrounding current MCH priorities. The MCH Epidemiology team produced 12 topical data briefs to provide stakeholders with a deeper dive into key areas of interest or concern. A further discussion of stakeholder participation in the priority selection process can be found in III.C.2.c.

Quantitative Methods: The MCH Epidemiology team analyzed data on a range of perinatal, infant, child (including CSHCN), and maternal health indicators drawn from a broad variety of state and national data sources. Ultimately, nearly 100 indicators were assessed, and where feasible, were broken down along sociodemographic and community lines to better understand the impact of indicators pertaining to social determinants of health (SDOH). Additionally, the BEVS team used data drawn from population-based survey systems, particularly surrounding

chronic disease risk factors, infectious disease/STI's, preventive health practices, mental health, and access to care. Information on population distribution, particularly as related to the SDOH (e.g., poverty, health insurance, education) was obtained through federal sources including the American Community Survey/US Census Bureau; these were assessed at state, local, and county levels wherever feasible to identify geographic and demographic areas of greatest need. Data and trends collected through Title V reporting on current state and national performance/outcome measures were also examined to understand successes and shortcomings of current operations and programs. A select listing of indicators analyzed as part of the needs assessment process can be found below (Table 1). Quantitative data was also provisioned to programs to assist them in developing measurable strategies to meet new Missouri Title V program performance and outcome objectives. A list of data sources utilized as part of the needs assessment process can be found in the References section of the MCH Block Grant application package.

Table 1. Select listing of MCH indicators used in the Missouri Title V Block Grant Needs Assessment.

| Maternal Measures | Infant Measures | Child / Adolescent Measures | CYSHCN Measures | Cross-Cutting / SDOH |
|---|---|--|--|-----------------------------------|
| Prepregnancy chronic conditions | Breastfeeding ever / at 6 months | Children without health insurance | CYSHCN without health insurance | Persons in poverty |
| Past-year preventive care visit | LBW or VLBW infants delivered at Lv. III facilities | Children receiving full immunization series (4:3:1:3:3) | CYSHCN with inadequate health insurance | Persons with inadequate insurance |
| Postpartum depression | Infant mortality rate per 1,000 live births | Childhood fatalities due to MVA | Conditions of CYSHCN | Medicaid births |
| First trimester prenatal care | LBW and VLBW incidence rate | Injury-related hospitalizations among children | School readiness / attendance among CYSHCN | OB deserts |
| Women without health insurance | Perinatal mortality | Suicide deaths/injuries among adolescents | Delayed care for child's medical condition | Pediatric care deserts |
| Maternal mortality rate per 100,000 live births | Postneonatal mortality | Children physically active 60+ minutes/day | Reasons for delayed medical care | Unemployment rates |
| Severe maternal morbidity rate per 10,000 live births | Back sleep position among infants | Injury-related ER visits among children | Cost of / access to care | Median income |
| Cesarean deliveries among low-risk first births | % of mothers following all safe sleep guidelines | Adolescents who are bullied | Parental mental health for parents of CYSHCN | Maternal education |
| Barriers to prenatal care | Infants EBF through 6 months | Children with preventive services visit in the past year | Medical home among CYSHCN | Births to unmarried mothers |
| Adequacy / timeliness of prenatal care | Infant injury-related hospitalizations | Children with inadequate health insurance | | |
| Smoking during pregnancy | Infants in HV program receiving all recommended well-child visits | Death rate among children 1-14 years | | |
| Preventive dental visit before / during pregnancy | | Death rate among adolescents 15-19 years | | |
| Substance use during pregnancy | | Children living in a house with a smoker | | |
| Alcohol use during pregnancy | | Births to mothers aged <20 years | | |
| | | Illicit substance use among youths | | |
| | | Tobacco / vaping among youths | | |
| | Alcohol use among youths | | | |

Qualitative Methods: Qualitative information was gathered from focus groups and through survey data, including both ongoing population-based surveys and surveys developed specifically for needs assessment purposes and intended to fill gaps in population-based survey systems. In March 2019, DHSS contracted with Southeast Missouri State University to conduct focus groups across Missouri, including both urban and rural areas, and in all geographic regions of the state. Focus groups were completed by November, 2019. These focus groups included varied racial and ethnic participation, including two seeking targeted participation among Missouri's Hispanic population. Additionally, a focus group was conducted at the DHSS-sponsored Family Partnership retreat in August 2019, exclusively for the families of CSHCN to solicit feedback about the unique challenges this population faces obtaining health care and maintaining health for themselves and their children. Focus groups were also conducted among LPHAs and health care providers in rural and urban regions of the state. Focus group topics included: ability to

access health insurance and insurance adequacy; ability to access care and care adequacy; barriers to and facilitators of good health; community and social issues; transportation; health literacy; mental health; substance use; and others. A total of 175 consumers, 28 medical providers, and 23 LPHA representatives participated in focus groups.

Interface between data, priorities, and action plan: The Title V Program and BEVS epidemiology support staff combined the data gathered from stakeholders (i.e., focus groups, CYSHCN families, MCH-funded programs, statewide stakeholders and partners), quantitative data available on health factor and outcome indicators, and life course performance metrics. The resulting needs assessment findings were presented to stakeholders and the Title V Program to ensure that they were able to measure candidate priority issues in a quantitative manner. The integration and review of both quantitative and qualitative data together/as a whole facilitated the stakeholders' capability to identify MCH priority needs that were well-integrated and accurately reflected the needs of the MCH population. After Missouri's state priorities were established, the Title V Program and BEVS staff collaborated to develop the State Action Plan, including the identification of specific objectives and strategies. In developing strategies, the Missouri Title V Program took care to ensure that strategies established for the beginning of the block grant cycle would flow effectively from measuring effort to measuring outcomes later in the five-year grant cycle. The BEVS MCH unit has extensive experience in assisting programs as they develop strategies to measure operations and impact from a quantitative perspective.

Findings

MCH Population Health Status

Priorities: The Missouri Title V Program identified the following 8 state priority needs for the upcoming 2021-2025 five-year grant cycle:

- Women/Maternal Health: Improve pre-conception, prenatal and postpartum health care services for women of childbearing age (Well-Woman Visit)
- Perinatal/Infant health: Promote safe sleep practices among newborns to reduce sleep-related infant deaths (Safe Sleep)
- Child Health:
 - Reduce obesity among children and adolescents (Physical Activity)
 - Enhance access to oral health care services for children (Preventive Dental Visit)
- Adolescent Health:
 - Reduce intentional and unintentional injuries among children and adolescents (Injury Hospitalization)
 - Promote Protective Factors for Youth and Families (Youth Suicide & Self-Harm)
- CYSHCN: Ensure coordinated, comprehensive and ongoing health care services for children with and without special health care needs (Medical Home)
- Cross-Cutting and Systems Building: Address Social Determinants of Health Inequities (Training & Health Literacy)

The following sections provide a discussion and contextualization of the state's identified priority needs.

Women/Maternal Health: A critical component to improve maternal health is ensuring consistent access to high-quality preventive care across the lifespan. This includes access to quality pre-conception, prenatal, postpartum, and inter-conception care. In addition to caring for mothers and their infants during pregnancy, effective, coordinated, health care before and between pregnancies enhances women's ability to reach and maintain optimal health and the chance for early detection of chronic conditions. However, surveys and focus groups continue to indicate that access to quality health care is strongly impacted by factors including insurance coverage, geographic location, financial and work considerations, and unavailability of timely preventive or specialist care. In Missouri, access to care is further complicated by fragmented geographic availability of care. Since 2010, seven rural hospitals have closed in the state, and a greater number have reduced the number of services available, such as eliminating obstetric or specialty care².

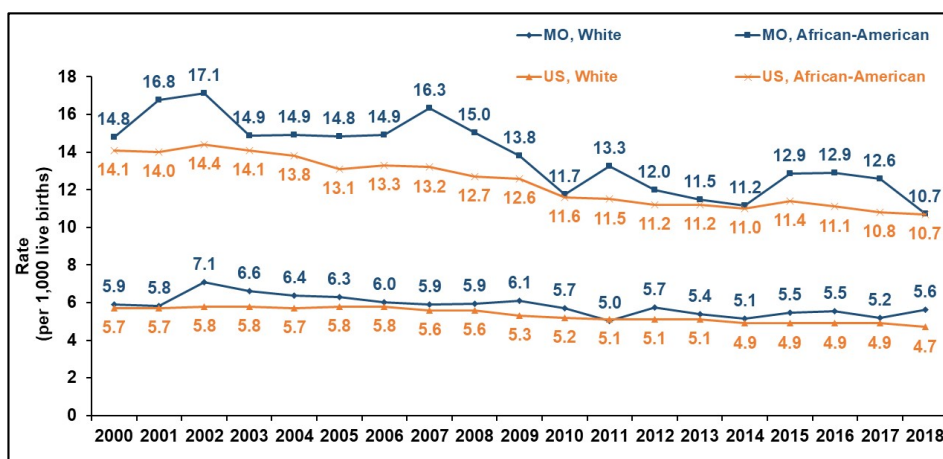
At the same time, chronic conditions such as obesity and diabetes have continued to increase among women of childbearing age. In 2009, 24% of new Missouri mothers were obese, a rate which increased to 29% in 2018; in the same year 7% of women had either pre-pregnancy or gestational diabetes. Obesity and associated complications are associated with poorer birth outcomes for mothers (e.g., increased incidence of maternal morbidity, including the need for emergent C-sections) and infants (e.g., increased incidence of LBW/prematurity)³. Access to timely, high-quality prenatal care is further complicated by a high proportion of unintended pregnancies among Missouri women. Surveys indicate that nearly half of pregnancies in the state (46%) were not intended. The frequency of unplanned pregnancies among Missouri's black population (averaging 71% from 2012-2017) is significantly higher than among the white population (43%).

Focus group findings underscore the difficulties women experience obtaining care before, during, and after pregnancy. In particular, women whose prenatal care is covered through MO HealthNet (Medicaid) continue to experience delays in receiving proof of Medicaid coverage, and also report difficulties locating physicians who will see them for prenatal care before their card is in-hand. While focus group participants in rural areas reported greater difficulties locating service providers, women in urban areas reported issues as well, and were more likely to report that they did not feel that the doctors they were able to see gave them high-quality care.

The Missouri Title V program currently funds efforts to improve access to preventive health care for women, including: TEL-LINK which provides referrals to care for women of childbearing age and their families; the Newborn Health Program which partners with community providers to educate the MCH population on health resources (incl. preventive care); and the Home Visiting Program which facilitates enrollment in MO HealthNet and/or ACA marketplace insurance programs for participants.

Perinatal/Infant Health: Rates of infant death have been decreasing since 2013 for African-American infants, while the rate for white infants has increased slightly; despite these trends, African-American infants continue to have a significantly higher rate than white infants. The ratio between African-American and white infant mortality rates (IMR) in 2013 was 2.1 while the ratio in 2018 was 1.9 which indicates an almost 10% decrease in the ratio between races (Figure 1). There is some evidence that the persistent disparity in infant mortality rates between African-American and white babies in the United States is driven primarily by the frequency of prematurity-related adverse outcomes in the African-American population. Babies born between 34 and 36 weeks' gestation have an infant mortality rate three times as high as babies born fullterm⁴.

Figure 1. Infant Mortality by Race, Missouri and U.S., 2000-2018



Prematurity (<37 weeks gestation), congenital anomalies, and maternal complications of pregnancy are important contributors to neonatal death. Deaths due to suffocation, congenital anomalies, and Sudden Infant Death Syndrome (SIDS) are the most significant single causes of postneonatal death. Missouri's rate of injury-related death, which includes SIDS, SUID, and suffocation, is nearly three times higher than the national rate (31 per 1,000 live births US vs

70 per 1,000 live births MO). Mothers with less education, lower household income, who are African-American, or who live in rural counties, are significantly less likely to follow safe sleep recommendations. Additionally, African-American mothers (43%) practiced bed-sharing, the act of sharing a sleep surface with an infant, at over twice the rate of non-African-American mothers (20%). Rural infants older than 27 days are 425% more likely to have a diagnosis of SIDS than their urban counterparts. This may reflect limitations of the medicolegal infrastructure in rural areas or social pressure not to identify sleep-related infant deaths as suffocation.

Safe sleep continues to be a priority for Missouri Title V, which is a primary resource for the Safe Cribs for Missouri program, which provides safe sleep education and free cribs to eligible families. Title V Home Visiting Program participants also receive intensive education on safe sleep for their infants. Title V provides supplementary funds to support operations of the PRAMS survey which monitors safe sleep practices in the state; additionally the *Pregnancy and Beyond* book is distributed, which includes information on safe sleep and infant care.

Child Health: Healthy levels of physical activity, along with a nutritious diet, allows young people to develop a healthy musculoskeletal structure, cardiovascular system, hand-eye coordination, and maintain a healthy body weight. However, In Missouri, 17% of WIC-enrolled two-to-four year olds were overweight, and an additional 14% were obese. Among older children, 32% of Missouri youths aged 10-17 were overweight or obese in 2018, and overweight and obesity were more frequent among 10-13 year olds than among high-school-aged youth. Physical activity levels decline as children get older: while 27% of 6-11 year-old children were physically active every day, only 12% of 12-17 year-olds were. High levels of physical activity in early childhood are predictors of continued physical activities as children age into young adulthood, underscoring the importance of establishing healthy physical habits in youth⁵. For this reason, the Missouri Title V program selected children aged <11 years as the target population for this health priority. Additionally, environmental factors play a significant role in influencing physical activity and healthy eating among children, youth, and families. Parents in focus groups, particularly in rural areas, were more likely to report that they lived in neighborhoods without access to sidewalks or parks, and in urban areas participants reported that they had safety concerns in their neighborhood, reducing the opportunities for outdoor physical activity. The School Health Program provides resources to help school nurses address low physical activity. The MCH Services Program also works closely with LPHAs to promote the 1-2-3-4-5 FitTastic! Framework to improve physical activity among Missouri children.

Good oral health is associated with increased self-esteem and academic performance, and has also been tied to decreased risk of cardiovascular disease in adulthood. Dental sealants, good oral hygiene habits, and fluoride treatments can significantly reduce a child's likelihood of developing tooth decay. Data from MO HealthNet indicates that Missouri is significantly below the national average in the percent of Medicaid-eligible children ages 6 to 14 receiving at least one dental sealant for the years 2015 through 2017. Among all third graders in 2016-2017, 30% had dental sealants. Parents and caregivers of CYSHCN may also have difficulty locating dentists or hygienists able to accommodate the additional medical or behavioral needs of their children. Furthermore, a Title-V-sponsored survey of Missouri third-graders indicated that 55% had some degree of tooth decay, with rates significantly higher among children in rural counties (64%) than urban (50%). Children attending schools with <75% participation in the national free/reduced price school lunch program (NSLP) (as a proxy for poverty) had nearly twice the odds of having tooth decay than children at schools with >25% NSLP participation. Missouri Title V supports the Office of Dental Health (ODH), which promotes cavity prevention and oral health to school children through literature and programs including providing fluoride varnish at schools statewide. ODH also conducts a Basic Screening Survey to monitor dental health among elementary students.

Adolescent Health: Intentional and unintentional injury continue to be the leading cause of preventable death and hospitalization among Missouri's children; Missouri continues to report higher rates of injury related death and hospitalization than the national average. From 2013 and 2017, unintentional injury was the leading cause of death among children aged 1 to 15, largely driven by motor vehicle accidents and, increasingly, by upticks in suicide deaths among older youths. Suicide among Missouri adolescents between the ages of 10-24 is the second leading cause of death for this age group (15.5 per 100,000). In 2018, 185 Missourians aged 10-24 died of suicide, making up

approximately 15% of all suicides that year. According to Missouri's Youth Risk Behavior Survey (YRBS), the percentage of high school students who say they seriously considered attempting suicide has increased from 15.4% in 2009 to 17.4% in 2019. The percentage of high school students who say they have made a plan about how they will commit suicide has also increased from 11% in 2009 to 14% in 2019. Missouri adolescents are also increasingly likely to report that they engage in risky motor vehicle behavior(s), including texting or emailing while driving. Additionally, progress on improving seatbelt use among high school students has plateaued, and since 2013 approximately 8% of high school YRBS respondents continue not to use seatbelts when they drive or ride in a vehicle. Improving resiliency and mental health among children and youth of all ages will impact suicide and risk-taking behavior, reducing injury hospitalizations and medical visits among both populations; however, Missouri has elected to focus on injury prevention among adolescents because this population is significantly more at risk of experiencing fatal injury than younger children (7 per 100,000 for children aged 1-10 years vs 16 per 100,000 for youths aged 10-19). The Adolescent Health Program partners to provide evidence-based suicide prevention trainings to schools and has developed a crisis toolkit for distribution to families. The Safe Kids Coalition provides safe driving classes for youth to help them drive safely, responsibly, and undistracted.

CYSHCN: A medical home has many identified benefits for children with and without special health needs. Medical homes can improve identification of disabilities and developmental issues, and they encourage vertical and horizontal care coordination. In 2017-2018, 51% of Missouri CYSHCN received care through a system that met medical home criteria, a rate consistent with that of non-CYSHCN. However, among CYSHCN, those with more complex health needs were less likely to have a medical home (41%) than those with less complex health needs (67%). Rates of medical home adequacy decline as children age, from 62% among children younger than age 6, to 41% among adolescents 12-17. A survey of Family Partnership Retreat participant families indicated that families in rural and non-rural counties had approximately equal likelihoods of having a medical home for their child (58% in rural counties; 59% in urban and suburban counties), but families living in rural counties were 15% more likely to receive explicit assistance from their medical home in coordinating care for their child's special health needs. The CYSHCN program provides targeted education to enrolling families on the importance of a medical home. Additionally, programs that promote health insurance coverage also improve the likelihood that children will have a medical home, as insurance status serves as a positive predictive factor.

Social Determinants of Health: Missouri is a geographically and racially diverse state, and cultural, socioeconomic, and similar challenges can impact residents' ability to reach and maintain optimal health. Comprehensive, affordable health insurance and the cost of care continues to pose a major hurdle to Missouri mothers, children, and families. Increasing cost burden drives many to delay or skip care for non-emergent conditions: in 2018, over 25% of Missourians with household incomes below \$35,000 reported foregoing medical care in the previous year due to cost. Transportation is another factor that limits access to health care, in both rural and urban areas. Arranging transportation through Medicaid remains difficult and unreliable for many consumers, particularly when the need to see specialists and/or obtain dental services requires patients travel a long distance to see a provider who will accept Medicaid or insurance. Typically, Missourians who live in rural areas must travel to Columbia, St. Louis, or Kansas City to receive specialty care, which may represent upwards of 8 hours of round-trip driving for some patients. African-American focus group participants in the St. Louis region were more likely to report that they were unsatisfied with the quality of care they received locally, and many stated that they would prefer to travel farther to receive higher-quality care outside of St. Louis City.

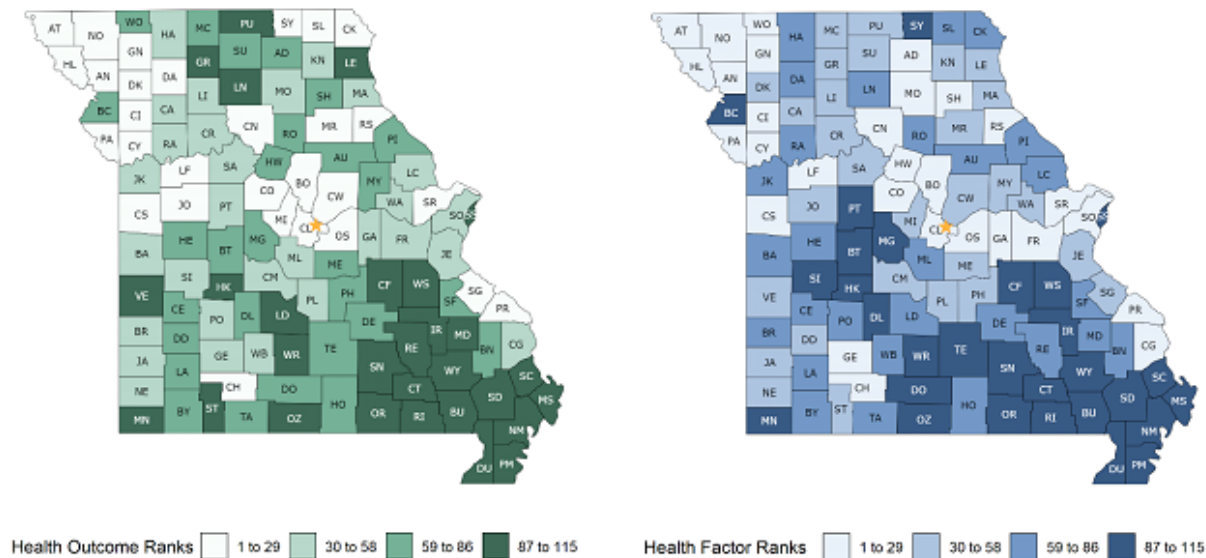
Consistent with previous needs assessment efforts, analysis of quantitative and qualitative data sources continues to indicate several loci in the state with elevated rates of adverse health risk and outcome factors. In particular, the far southeast counties of the state (the Bootheel) and the urban centers of Kansas City and St. Louis have consistently reported higher rates of smoking/tobacco use, overweight and/or obesity, poverty and unemployment, transportation challenges, and lack of access to health care services (Figure 2). Seventeen Missouri counties meet the United States Department of Agriculture definition of 'persistently poor': sixteen of those counties are rural, with only the City of St. Louis qualifying as an urban area of persistent poverty⁷. These counties are overwhelmingly concentrated in the south-central and southeast region of the state, and include Pemiscot, Dunklin, New Madrid and Ripley Counties, which have

consistently been in the bottom ten for health rankings for the past ten years⁸.

Figure 2. Health Outcomes and Health Factors, Missouri Counties (2020)

2020 Health Outcomes - Missouri

2020 Health Factors - Missouri



Access to adequate insurance is another factor that strongly influences Missourians' ability to meet their health needs. Overall, 16% of Missouri adults between the ages of 18 and 64 were uninsured in 2018, higher than the statewide rate among all adults of 12%. Under Missouri's current framework, MO HealthNet does not provide coverage for non-disabled childless adults, regardless of income, and parents of dependents are only eligible for coverage if their household income does not exceed 22% of the federal poverty level (FPL) (combined household income of \$4,479 for a family of three in 2019). Pregnant women in Missouri with household incomes up to 196% FPL are eligible for full MO HealthNet coverage, with partial coverage available to women up to 301% FPL, but these benefits expire 6 weeks after delivery unless the mother is receiving treatment for a diagnosed substance use disorder. Some demographic groups are more likely than others to be without health insurance: in particular, those without insurance coverage live in rural counties, are Hispanic, younger than 35 years old, and/or have less than a high school diploma. Families of CYSHCN are nearly twice as likely to report that the available health insurance benefits did not adequately meet their child's medical needs (11% vs. 6%). Ninety-three percent of CYSHCN were consistently covered by health insurance during the previous year, rates comparable to non CYSHCN, but were much more likely to have public health insurance (39% vs. 29%), rather than private. Focus group findings suggest that the parents of CYSHCN experience ongoing frustrations navigating public and private health insurance bureaucracies to ensure that their children receive recommended care, therapy, and other associated services. More than one in four (27%) Family Partnership survey respondents stated that they had foregone or delayed needed care for their children. A significant proportion of these parents stated that this was due to cost or issues with insurance coverage. Parents whose children were covered only through private insurance were nearly twice as likely to report that they delayed or missed treatments for their children (50%) than were parents insured under MO HealthNet (27%).

Health Disparities: Qualitative and quantitative data indicate that Missouri continues to experience areas of concern, particularly surrounding outcome disparities in maternal and child health. These include racial disparities, economic disparities, and geographic disparities.

- African-American or Black mothers continue to experience rates of maternal mortality over twice that of white women (81 per 100,000 live births for Black mothers, vs. 31 per 100,000 live births for white). There were similar disparities in severe maternal morbidity (SMM): in 2017, white mothers experienced SMM at a rate of

92 per 10,000 live births, while Black mothers experienced SMM at a rate of 213 per 10,000 live births.

- Seventeen percent of women received inadequate prenatal care from 2014-2018: prenatal care was considered inadequate for 27% of women with prenatal care paid through MO HealthNet, but for only 10% of those not receiving Medicaid. From 2014-2018, 40% of African-American mothers, did not initiate prenatal care in the first trimester. During the same time period, only 32% of women on MO HealthNet began prenatal care during the first trimester.
- African-American babies are significantly more likely to be born at low birth weight than white infants (14% of live births vs. 7%, 2010-2018) and to be born before 37 weeks' gestation (14% vs 10%). Nearly all Level III+ facilities in Missouri are located along the I-70 corridor that forms an east-west belt across the state, limiting care quality for high-risk women in rural counties.
- Compared to white mothers, Black women are significantly less likely to report that their babies were fed only breastmilk in the hospital (55% vs. 69%). Additionally, Black mothers more frequently experience practices that have negative impacts on breastfeeding success, including receiving formula samples (59% vs. 40%) and pacifier use in the hospital (70% vs. 60%).
- Postneonatal mortality from all causes is 18% higher among infants in rural counties than urban.
- Missouri ranks 41st among all states for prevalence of tobacco use, including traditional cigarettes, chewing tobacco, cigars, and electronic cigarettes. Rates of tobacco use (before, during, and after pregnancy) are highest in the southeast region of the state, including the Bootheel. Rates of cigarette use during pregnancy are highest among white (15%) rural (20%) women.
- Deaths from opioid overdoses have increased among all Missourians over the last 5 years, but Black females are dying from opioid overdoses at nearly twice the rate as white females. Counties with the highest rates of overdose deaths are primarily located in the St. Louis metropolitan area.

Title V Program Capacity

Organizational Structure

Missouri's state government is organized into three branches: the Legislative Branch, the Judicial Branch, and the Executive Branch, which is headed by the Governor. Within the Executive Branch are 16 executive departments, including Health and Senior Services. The Department of Health and Senior Services (DHSS) is the designated state agency for the allocation and administration of the Title V MCH Services block grant funds. DHSS is organized into the Office of the Director, including the Office of Dental Health and State Public Health Laboratory (SPHL), and four divisions: Administration, Regulation and Licensure, Senior & Disability Services, and Community and Public Health (DCPH). DCPH is the largest of the four divisions and is responsible for supporting and operating more than 100 programs and initiatives addressing public health issues.

DCPH is further organized into six Sections and provides a majority of the services to the MCH populations. DCPH serves as the umbrella agency that facilitates access to numerous MCH-targeted programs. Structurally, the Title V MCH Services Director is located within the Section for Women's Health and oversees coordination of the Title V block grant. The Children with Special Health Care Needs Director is located within the Section for Community Health Services and Initiatives, Bureau of Special Health Care Needs.

State and Federal MCH funding support the following programs:

- Community Health Services (injury prevention, adolescent and school health)
- Environmental Health (childhood lead poisoning prevention)
- Epidemiology (vital statistics, analytics, surveillance systems)
- Healthy Children and Families (home visiting, newborn health, TEL-LINK, cribs)
- Genetics (newborn screening)
- Early Childhood (developmental monitoring, child care health consultation,
-

inclusion specialists) Oral Health (preventive services, community outreach)

- Special Health Care Needs (family partnership, care coordination, assistive technology)
- Women's Health (MCH services, infant & maternal mortality, health services for incarcerated women)
- Nutrition (breastfeeding, obesity prevention)

Agency Capacity

The capacity of Missouri's Title V Program is large, encompassing DHSS staff, local public health agencies, as well as numerous private and community partners. DHSS Title V staff are positioned throughout multiple divisions, sections, and bureaus. Listed below are the primary DHSS units and programming associated with Title V across each of the five population health domains.

The Section for Women's Health was created to consolidate women's health programs and includes staff from the Title V, Child Care Health Consultation (CCHC), and MCH Services programs as well as the Infant/Maternal Mortality Coordinator.

- The Title V MCH Director works with DHSS programs, other state agencies, and internal and external partners to improve the health and well-being of Missouri families and communities through public health activities that benefit the health of mothers, infants, children, and youth, including children and youth with special health care needs.
- CCHC uses MCH and Child Care Development Fund (CCDF) Block Grant funds to support contracts to Missouri's LPHAs for providing clock hour training, consultation, and technical assistance to child care providers, and health promotions for children enrolled in their care on numerous topics to improve health and safety in those environments. Title V focuses on the health of the maternal and child population overall and CCDF focuses on development of child care. The CCHC Program, by default, captures individuals from both funding focuses by serving child care providers (most often being women of childbearing age) and children in their care. Bringing these two focuses together provides a diverse realm for the CCHC Program to serve.
- The MCH Services Program supports a leadership role for LPHAs within coalitions and partnerships at the local level to build MCH systems and expand the resources those systems use to respond to priority MCH issues. LPHAs are required to use contract funding to expand or enhance activities that improve the health of the maternal and child health population and to address local maternal and child health issues, including the implementation of educational programs. These contracts comprise a third of state Title V funds and focus on selected priority health issues (PHI). Local PHI are determined through qualitative and quantitative assessment. The Life Course Perspective is the foundational concept upon which the LPHAs develop their three-year work plans. LPHAs also utilize the Spectrum of Prevention Model to influence policy and legislation; change organizational practices; foster coalitions and networks; educate providers; promote community education; and strengthen individual knowledge and skills. Evidence-based strategies are used to address the PHI(s) as well as address identified health inequities and existing weaknesses/gaps in access to care. The LPHAs are also required to establish a process for tracking and monitoring progress and analyzing performance trends.

The Section for Healthy Families and Youth (HFY) promotes optimal health through a series of programs that provide educational, nutritional, and support services for women of childbearing age, pregnant women, infants, and children. This section is responsible for developing policy; planning systems of care; and designing, implementing, and evaluating programs to meet the health care needs of families in the state of Missouri, including those with genetic disorders. HFY includes an Early Childhood Program Coordinator and the Bureaus of Genetics and Healthy Childhood (GHC) and WIC and Nutrition Services (WIC).

- GHC includes the Healthy Births and Babies Unit, which implements the Newborn Health and Safe Cribs programs and manages TEL-LINK, Missouri's confidential, toll-free telephone line for MCH care. The Home Visiting Unit is comprised of the Missouri Building Blocks (BB), Healthy Families Missouri Home Visiting

(HFMoHV), and the Maternal, Infant and Early Childhood Home Visiting (MIECHV) programs. These programs implement the following evidence-based models:

- Nurse Family Partnership (NFP) model;
- Healthy Families America (HFA) model;
- Parents as Teachers (PAT) model; and
- Early Head Start Home Based Option (EHS-HBO) model.

The Title V MCH Services Block Grant supports the HFMoHV program and the Missouri BB program implementing the HFA and NFP models respectively. The MIECHV Grant Program supports implementation of the NFP, PAT, and the EHS-HBO models. These models help improve health equity by providing services in communities at high-risk for adverse pregnancy outcomes.

- WIC services include the Breastfeeding and Developmental Milestones programs and the Talking is Teaching: Talk, Read, Sing campaign.

The Section for Community Health Services and Initiatives directs statewide programs designed to prevent and control chronic diseases for all Missourians and support the nutritional health of high-risk populations. The section provides leadership in assessment, planning and policy development and implementation of evidence-based approaches to prevent and control cancer and chronic diseases, the leading causes of death in Missouri. In addition, the section administers statewide programs that provide early screening and detection, and health and wellness interventions to reduce risk factors for chronic diseases (e.g., tobacco use, physical inactivity, and poor diets). The primary units are the Bureaus of Community Health and Wellness (BCHW) and Special Health Care Needs (SHCN). BCHW includes the Injury Prevention, Adolescent Health, and School Health programs. SHCN provides statewide health care support services, including service coordination, for children and adults with disabilities, chronic illness, birth defects, and adults who have sustained a traumatic brain injury.

- The Adolescent Health Program (AHP) addresses various health topics such as positive youth development and teen pregnancy prevention. The AHP team provides consultation, education, training, technical assistance, and resources for health professionals, school personnel, parents, adolescents, state agencies, and community organizations. The AHP team coordinates the Council for Adolescent and School Health (CASH) which helps DHSS identify health priorities for adolescents, promote strategies to reduce health risks, and promote healthy youth development.
- SHCN coordinates programs and initiatives focused on developing, promoting, and supporting community-based systems that enable the best possible health and greatest degree of independence for Missourians with special health care needs. State and federal funding support SHCN services, including the Title V MCH Block Grant. SHCN accomplishes its mission in collaboration with families, health care providers, and other community, state, and national partners. SHCN management considers concepts from the *Standards for Systems of Care for Children and Youth with Special Health Care Needs* for programmatic planning and policy development to enhance comprehensive services.

The Section of Epidemiology for Public Health Practice promotes a better understanding of health problems and needs in Missouri and assists the division in many functions including initiation and maintenance of surveillance systems; data management and reporting; collection of birth and death information; and public information dissemination. Primary units are the Bureaus of Epidemiology and Vital Statistics (BEVS) and Health Care Analysis and Data Dissemination.

- BEVS includes the Lead for the MCH Epidemiology response team. The position also serves as the Primary Investigator for the MO Pregnancy Risk Assessment Monitoring System (PRAMS) and coordinates States Systems Development Initiative activities. Additional positions in this bureau provide crucial data/analytical support for the Title V performance measures and the needs assessment.

The Section for Environmental Public Health, Bureau of Environmental Epidemiology, houses the Childhood Lead Poisoning Prevention Program (CLPPP). CLPPP's mission is to assure the children of Missouri a safe and healthy environment through primary prevention and the identification of lead exposures that may cause illness or death. The

Title V Program collaborated with CLPPP staff to participate in the Maternal and Child Environmental Health (MCEH) Collaborative Improvement & Innovation Network (CollIN) and continues to work together to reduce harmful lead exposure to Missouri's children and families.

In the Division of Regulation and Licensure, the Section for Child Care Regulation is responsible for conducting state inspections and investigating complaints at licensed family child care homes, group child care homes, and child care centers. The section also conducts health and safety inspections at license-exempt child care facilities.

- Child Care Inclusion Services employs a network of six Inclusion Specialists to support children with special needs who may require enhanced child care services over that of a typically developing child due to an actual or perceived developmental disability and/or delay, health/mental health, or behavior issues.

The Office of Dental Health is committed to improving oral health through education, prevention, and leadership and coordinates with local schools to provide dental screenings and fluoride varnish applications. Other partners throughout DHSS serve the MCH population and provide their expertise and support as necessary. Title V staff play key roles in the community by participating on coalitions and initiatives, providing technical assistance, and representing parents of children with special health care needs. They voice the needs of the MCH population and leverage resources to meet those needs. They are leaders who share their knowledge and develop resources to improve the public health system.

MCH Workforce Capacity

In SFY20, DCPH employed a total of 531.74 FTE, of which almost 60 FTE receive Title V MCH Services block grant funding. Only 15 full-time and 10 hourly & intermittent (H&I) positions are funded in full by the block grant. The remaining positions are partially funded by Title V in conjunction with state and/or federal funding. While the majority FTE are located in the DHSS Central Office, certain positions are located throughout the state, such as the MCH Services Program District Nurse Consultants (serving 6 districts), School Health Nurses (positioned in St. Louis and Kansas City), and the Oral Health Consultants (each of the 5 H&I positions serves 23 counties). In addition, positions covered by contract funding are located in the area services are provided.

Core Title V Program Staff in DCPH

- **Martha Smith, MSN, RN, LNHA, Title V MCH Director/Public Health Nursing Coordinator**, has served in these roles since March 2019, also providing management oversight for the Child Care Health Consultation Program and MCH Services Program, for which she previously served as the Program Manager. With over 30 years of nursing experience, encompassing a diversity of nursing and leadership roles in a variety of healthcare settings, her resume includes clinical, administrative, and consultative public health and MCH experience.
- **Lisa Crandall, Bureau Chief, Bureau of Special Health Care Needs**, has over 30 years of experience in health services. She has worked for DHSS, Bureau of Special Health Care Needs since 2004 and has been the Bureau Chief since 2012. Lisa has served as Missouri's Title V Children with Special Health Care Needs Director since 2016. Prior to being employed by DHSS, Lisa was a Service Coordinator for the Children and Youth with Special Health Care Needs Program through her employment with one of Missouri's LPHAs.
- **Venkata Garikapaty, PhD, MPH, Section Administrator, Epidemiology for Public Health Practice**,

served as the MCH epidemiology team lead from 2005-2017, before taking on the role of section administrator for Epidemiology for Public Health Practice. He oversees epidemiological and analytical effort for all MCH and chronic disease programs also serves as the Principal Investigator for the Missouri PRAMS and BRFSS grants.

- **Supriya Nelluri, Senior Research/Data Analyst**, has more than 10 years of state-level experience working in public health and has been working on Missouri's Title V block grant application and needs assessment since 2009. She provides support to the annual application data report, monitors and oversees quality of the data collection, and develops objectives for performance measures and data trend analysis. She also works in conjunction with the vital statistics staff on MCH data quality and integrity issues and provides advanced data analytical support to a wide range of MCH programs.
- **Andra Jungmeyer, MPH, State Adolescent Health Coordinator**, has over 20 years of experience in public health with over 6 years as the State Adolescent Health Coordinator. She has experience in grant management, teen pregnancy prevention, and positive youth development.
- **Jami L Kiesling, BSN, RN, Chief, Bureau of Genetics and Healthy Childhood**, has 15 years of nursing experience, 9 of which have been in state public health, with a focus on maternal and child health. She has served in her current role since 2018. Among the programs she oversees are the MIECHV and Title V funded Home Visiting Programs, Newborn Screening Programs, and Safe Cribs program.
- **Jaime Young, BSN, RN, Maternal Child Health (MCH) Services Program Manager**, has nearly 10 years of state and local public health experience and has served as the MCH Services Program Manager since 2019. She oversees contract monitoring for Title V local MCH Services funded through 113 local health departments in Missouri.
- **Cheryl L. West, MPH, Title V Program Coordinator**, has almost 18 years of experience in public health including substance use prevention, traffic safety, injury prevention, and grants management. She has served in her current position since 2016. She coordinates submission of the block grant application, monitors the overall budget, facilitates communication with program staff, and served as the Team Lead for the MCEH CollN.

Family Leaders

The Family Partnership provides resource information and peer support to families of children and youth with special health care needs. The Family Partnership employs four H&I professional Family Partners who are parents of individuals with special health care needs. Each serves a region of the state to assist families as well as plan, schedule, and facilitate all Family Partnership events. One Family Partner also participates on the Missouri Parent Advisory Council (PAC), which is a group of family leaders from across the state. These leaders have experience in their own communities working with agencies that provide services to at-risk families with young children and have demonstrated leadership skills. Title V provides financial support for PAC through consultation fees for parent leaders, travel reimbursement, and training costs.

Local Public Health Agency Workforce

With 104 of 114 LPHAs reporting, 16 reported reducing the number of days open to the public, nine reported laying off staff, and 42 reported not replacing open staff positions, with decreased funding and the COVID-19 pandemic being cited as the primary reasons for changes in staffing, hours of operation, and provision of services. In FFY2019, 14 MCH Orientations were provided for new LPHA MCH Coordinators, including content covering core principles of public health, MCH competencies, Life Course Perspective, the Spectrum of Prevention, contract terms and deliverables, and available resources.

Title V Program Partnerships, Collaboration, and Coordination

To identify the priority needs of Missouri's MCH population, the Title V needs assessment process sought input from community members and organizations, hospitals, non-profits, universities, LPHAs, and other state agencies. To address these priorities and implement effective strategies, the Title V Program will continue developing the relationships with these public and private entities as well as the specific organizations listed below.

Adolescent Health Program partners include Wyman Center, Teen Pregnancy & Prevention Partnership, Society for Prevention of Teen Suicide, and Council for Adolescent and School Health. The Injury Prevention Program supports Safe Kids coalitions and participates on Missouri's Injury & Violence Prevention Advisory Committee. To assist children and youth with special health care needs, partners include Assistive Technology, University of Missouri Kansas City-Institute for Human Development, and United 4 Children. Dental Health works with Missouri Coalition for Oral Health, Missouri Dental Association, and Missouri Primary Care Association on community outreach efforts and to increase access to oral health services. Newborn Health/Early Childhood initiatives connect with child care providers, Children's Trust Fund, Home Visiting Implementation Agencies, Happy Birth Day, Inc. (Count the Kicks), and Local WIC Agencies. Statewide collaboration occurs with Missouri's Women's Health Council, Missouri's past and current Healthy Start grantees (Generate Health, Nurture KC, and Missouri Bootheel Regional Consortium), and the Missouri Hospital Association. Several Title V programs work with local school districts and other state agencies, such as the Departments of Mental Health, Social Services, and Elementary and Secondary Education.

One of the largest partnerships is with the LPHAs who provide a strong local public health network of 114 city and county health departments. These agencies operate independently of each other and are independent of state and federal public health agencies. The LPHAs work directly with DHSS through contracts to deliver public health services to the communities they serve. These contracts include such programs as MCH Services, which comprises almost 30% of Title V block grant funding; CYSHCN Service Coordination; and Safe Cribs for Missouri. The LPHAs are typically the first point of contact for many Missourians seeking healthcare resources.

The #HealthierMO initiative provides a platform for transforming Missouri's public health system into a stronger, more sustainable, culturally relevant and responsive system that will allow public health experts to better meet the challenges of Missouri's diverse communities. The initiative advocates for long-term, systems-level change that will lead to healthier families, healthier communities, and a healthier Missouri. The initiative recognizes the value of interaction and input from a diverse group of public health system representatives across Missouri and covets feedback from all system stakeholders. The Title V MCH Director is part of the Executive Committee, Workforce Workgroup, and the Foundational Public Health Services (FPHS) Workgroup. Two additional Title V staff participated on the FPHS Workgroup to develop a model that defines a minimum set of fundamental public health services and capabilities that must be available in every community in order to have a functional public health system. Their involvement helped ensure that Maternal, Child, and Family Health was included as one of the Foundational Areas of the FPHS model.

As mentioned earlier, DCPH is organized into various units. Title V Program staff facilitate internal discussions within these units to broaden their reach through program planning, development, and evaluation. In addition, staff participate on various external Boards, Committees, Councils, and Coalitions to make sure that initiatives meet the needs of the MCH population.

Identifying Priority Needs and Linking to Performance Measures

The needs assessment was designed to enable the Title V program to assess its activities and services in relation to the state's MCH needs, identified through qualitative and quantitative data sources. Selected MCH stakeholders participated in a virtual convening in April, 2020, where they were briefed on the MCH block grant and an overview of findings. After reviewing additional fact sheets, stakeholders were invited to participate in an online discussion board segmented into each of the Title V domains (maternal health, infant health, child health, adolescent health, SHCN), as well as cross-cutting/SDOH. Comments were recorded from stakeholders, particularly regarding the most pressing

issues affecting each population domain and the MCH system's capacity to address those issues. After two weeks of discussion, stakeholders were invited to nominally rank each potential priority option in three ways: (1) by the number of individuals impacted, (2) by the capacity of existing resources to address the issue, and (3) by political and social will to address the issue. The qualitative and quantitative data in combination with the stakeholder meeting feedback led to the identification of 8 MCH priority needs for Missouri, including 5 National Performance Measures (NPM) and 3 State Performance Measures (SPM).

The Title V Program previously experienced difficulty addressing the current 13 selected FFY2016-2020 performance measures, and previous HRSA/MCHB reviewers expressed concern regarding capacity to address 13 performance measures. Eight MCH priorities (5 NPMs, 3 SPMs) and 2 overarching principles were identified from the combined quantitative/quantitative data compiled by the MCH Epidemiology team, themes from the online stakeholder chat group discussions, and stakeholder prioritization ranking surveys. Two overarching principles were identified from reoccurring themes that repeatedly arose in stakeholder engagement processes and internal conversations, to be incorporated throughout the State Action Plan, across all priorities, performance measures, and strategies. These included ensuring access to care, including adequate insurance coverage, for MCH populations, and promoting partnerships with individuals, families, and family-led organizations to ensure family engagement in decision-making, program planning, service delivery, and quality improvement activities.

Missouri previously sought technical assistance from the MCH Evidence Center to assist with designing ESMs that transition effectively from measuring effort to measuring impact and outcome. This approach was applied for the 2021-2025 MCH Block Grant action plan and strategies and improved the ability of the Title V program to demonstrate the value of investing targeted effort to move the needle on key MCH benchmarks. Among the priority needs identified by partners and the Title V Core Team, the program identified priority areas that synergize well with each other and with the overarching principles, as well as with the Title V program's renewed commitment to serve as a coordinating force within Missouri's MCH community. For example, breastfeeding has been identified in the literature as protective against SIDS⁹. The selection of safe sleep/reduction in sleep-related death and injury as an MCH priority enables Title V to continue to support breastfeeding promotion as a strategy to reduce sleep-related injury among infants. The Title V Program additionally has the flexibility to work to address MCH priorities and implement initiatives not specified in the State Action Plan, allowing the program to respond to ongoing and emerging MCH needs.